

Date: Sun, 4 Sep 94 04:30:29 PDT  
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>  
Errors-To: Ham-Homebrew-Errors@UCSD.Edu  
Reply-To: Ham-Homebrew@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Homebrew Digest V94 #263  
To: Ham-Homebrew

Ham-Homebrew Digest                      Sun, 4 Sep 94                      Volume 94 : Issue 263

Today's Topics:

1750 meter station list???  
CB to 6M conversions???  
EME amp  
FSTV Modifying a Gemini RABBIT for amateur service?  
Manual for Dentron MLX-MINI 20M  
Miller coil form; HEP-2 xsistor  
Pocket SW Receiver Design (2 msgs)  
Ramsey 10 Meter FM Receiver Kit Help  
Ramsey 2m Amplifier Brick kit  
Unitrode 1N5767 PIN diode + TR switch design (2 msgs)

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>  
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

-----  
Date: 3 Sep 1994 10:51:05 -0400  
From: newstf01.cr1.aol.com!search01.news.aol.com!not-for-mail@uunet.uu.net  
Subject: 1750 meter station list???  
To: ham-homebrew@ucsd.edu

Does anyone have a list of 1750 meter stations? I've seen bits and pieces  
around but nothing comprehensive.

Thanks - Rob, N1NTE (email - RobB873302@aol.com)

-----  
Date: 3 Sep 1994 11:01:03 -0400

From: newstf01.cr1.aol.com!search01.news.aol.com!not-for-mail@uunet.uu.net  
Subject: CB to 6M conversions???  
To: ham-homebrew@ucsd.edu

I picked up a bunch of Realistic TR-47 SSB 23 channel CBs. I'd like to get them up on 6M and had seen an article on how to do it once. Anyone else seen this?

Thanks - Rob, N1NTE (email - RobB873302@aol.com)

-----  
Date: Fri, 2 Sep 1994 04:00:52 GMT  
From: psinntp!relay1!rsvl\_ns!unirsvl!blap.rsvl.unisys.com!laplante@uunet.uu.net  
Subject: EME amp  
To: ham-homebrew@ucsd.edu

What are people using for power amplification on EME? I'm looking at 2m or 432, and trying to keep the costs down somewhat. How much power are you using, and what is your amp... homebuilt, surplus, used....?

-----  
Date: 3 Sep 1994 02:21:20 GMT  
From: ihnp4.ucsd.edu!agate!library.ucla.edu!europa.eng.gtefsd.com!gatech!usenet.ins.cwru.edu!po.cwru.edu!sct@network.ucsd.edu  
Subject: FSTV Modifying a Gemini RABBIT for amateur service?  
To: ham-homebrew@ucsd.edu

In article <6898@uugate.wa7slg.ampr.org>,  
ka7oei@uugate.wa7slg.ampr.ORG <ka7oei@uugate.wa7slg.ampr.ORG> wrote:  
> Keep in mind that most things (TNC2 with the super-fast, killer clock  
> speed option) is unlikely to work much above 56 kbaud, as is the Data  
> Engine.

There's nothing wrong with having the signal on the air have a much higher baud rate than the computer/TNC interface. The computers will catch up in time. Until then, having fast packets and slow computers means the modems need FIFOs in hardware or software. In exchange, you get more computers on a channel and fewer bottlenecks.

Stephen

--

Stephen Trier  
sct@po.cwru.edu  
KG8IH

"Even if I wanted to practice my horn, it's at  
the bottom of the bathroom."

- Dan Alt, hornist, during the Cleveland  
Youth Wind Symphony European tour 1994

-----  
Date: 2 Sep 1994 21:42:28 GMT  
From: ihnp4.ucsd.edu!sdd.hp.com!spool.mu.edu!howland.reston.ans.net!gatech!  
nntp.msstate.edu!saimiri.primate.wisc.edu!kbad.eglin.af.mil!aeon16.eglin.af.mil!  
johnsong@network.ucsd.edu  
Subject: Manual for Dentron MLX-MINI 20M  
To: ham-homebrew@ucsd.edu

Greetings!

I am posting this for a friend who left his manual and schematics somewhere in Turkey. He has a Dentron MLX-MINI 20 meter single-band CW and SSB rig made in the early '80s. Only a few hundred were made, and the serial number is "EXPERIMENTAL." If you have (or know someone who has) a transciever like it, please help!

My friend will happily pay copying and mailing costs for the manual and/or schematic. Thanks in advance!

Regards,

Gary Johnson, AD4DR  
johnsong@tsun.eglin.af.mil

-----  
Date: Sat, 3 Sep 1994 03:58:45 GMT  
From: news.Hawaii.Edu!kahuna!jeffrey@ames.arpa  
Subject: Miller coil form; HEP-2 xsistor  
To: ham-homebrew@ucsd.edu

I'm building a 25 MHz VFO from an older book; the author calls for all three inductors to be wound on a J.W. Miller #4500 coil form; Does anyone know the outside diameter of this form so I can find a substitute?

He only states the number of turns of #30 wire (close wound) without giving any other details (not even the inductances are given!)

Oh, while I'm here, can someone provide a 'modern' replacement for an HEP-2 (= GE-1) transistor? The VFO uses three of these older pups.

Thanks so much.

Jeff NH6IL (ex WA6QIJ)

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Date: 2 Sep 1994 13:36:34 -0700  
From: news.sprintlink.net!news.world.net!news.teleport.com!news.teleport.com!not-for-mail@uunet.uu.net  
Subject: Pocket SW Receiver Design  
To: ham-homebrew@ucsd.edu

John Marvin Zelle (zelle@cs.utexas.edu) wrote:  
> question to the wisdom of the net. Namely, what type of receiver would  
> you recommend for a small portable shortwave. Here are the general design  
> specs I'm working under:

I occasionally drop everything and take off travelling, living for a year or so out of a daypack. A shortwave radio is nice to pack, especially if you can't read the local newspapers.

My criteria are:

- small and light as possible
- cheap and replacable (so I don't spend my time guarding it)
- dependably receives major broadcasters (usually the BBC)

Last time out I travelled with the smallest commercial job I could find. But I have been thinking I could do better.

A small shortwave to AM broadcast converter could be built with little more than the Phillips NE602, a crystal, and a tuned antenna coupler. With surface mount parts, it could be the size of a fingernail. If the crystal is around 8.5Mhz, could choose between the 31 and 41 meter shortwave bands by retuning the antenna coupler. A 6.0 Mhz crystal would hit 60 and 41 meters.

The converter would be coupled to an AM broadcast band radio by winding a wire around the AM radio's ferrite loop. Since the converter would be under crystal control, the radio must be tuned. The radio is shielded from local broadcast band stations by wrapping it in tinfoil (with holes cut for the controls).

Alternately, we could pick a dead spot on the AM radio and tune the converter (doing away with crystal control). But that would make the converter much bigger, and would not be as stable.

Small AM broadcast radios are usually easy to replace anywhere. Since the converters are so small, could carry a half dozen of them. Pack them in different places, so it is unlikely that you should ever lose them all. Could hand them out to acquaintances. And they would make for interesting conversations with bored spy-crazy inspectors at

isolated frontiers.

Automobile radios would also be ideal for use with such a converter, they are always well shielded to avoid ignition noise. Seldom hear anything when the antenna cable has been disconnected. Shortwave reception in the car could be very nice, especially if you often travel through regions not covered by commercial broadcast stations. Unfortunately, those dang digitally tuned units that are in most cars now take so long to recover when changing frequency. Would be really aggravating to tune across a shortwave band with one (or a commercial broadcast band, for that matter).

If you wish to build a complete radio, I would think that such a converter followed by a regenerative detector would be fun to play with. The oscillator on the converter would be tuned, not crystal controlled. The detector would operate at a constant frequency, perhaps 1 Mhz. A bit of LC filtering in front of the detector would help avoid overloading it. Since the detector is operating at a reasonably low frequency, selectivity can be very good. As a bonus, Amateur CW and SSB signals can be recieved.

Rumor has it that Digi-Key is selling the NE602, though I assume that is only the DIP through-hole version (I don't see it in their catalog). Arrow sells all the Phillips parts (including the surface mount NE602AD), plus the Intel, Lattice, Motorola, TI, AMD and Quality Semi lines (and plenty more). The hitch is that they have a \$50 minimum/order, \$25 minimum per line item. Anybody know of any other sources? The NE602 should run about \$2 US each.

BTW, I have tried to post this before, but don't think it got out.

jerryg KE7ER

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Date: Fri, 02 Sep 1994 22:00  
From: ihnp4.ucsd.edu!agate!library.ucla.edu!news.mic.ucla.edu!MVS.OAC.UCLA.EDU!  
OSYSMAS@network.ucsd.edu  
Subject: Pocket SW Receiver Design  
To: ham-homebrew@ucsd.edu

> For AM detection you could use the RSSI (Received Sig. Strength  
> Indicator) output of the '605 (it has a good log curve of almost  
> 90db!) if you didn't mind a bit of audio distortion, or a simple  
> envelope detector could be used.

I remember seeing an article in RF design (?), where the RSSI output was run through an anti-log circuit to get linear AM output...

-----  
Date: 2 Sep 1994 21:24:05 GMT  
From: ihnp4.ucsd.edu!newshub.nosc.mil!crash!news.sprintlink.net!  
dolphin.phoenix.net!phoenix.phoenix.net!marwynn@network.ucsd.edu  
Subject: Ramsey 10 Meter FM Receiver Kit Help  
To: ham-homebrew@ucsd.edu

I have built the Ramsey model FR-10 10 meter fm receiver kit. I want to use it with a different band width. I am going to use it as a 10 ghz receiver. I understand to change the band width requires repalcing one of the ceramic filters with a capacitor. Which filter should be change the 10 20.7 MHZ or the 455 kc filter? And what value of cap whould be used? .01 mfd ? I would appreciate your help in this mater. 73's

--

Marwynne Kuhn      WB5PWG

Email : marwynn@phoenix.phoenix.net  
Prodigy:              KGNR42a  
Packet:              WB5PWG@KA5KTH.#SETX.TX.USA.NA

-----  
Date: Sat, 3 Sep 1994 00:32:31 GMT  
From: dog.ee.lbl.gov!agate!howland.reston.ans.net!gatech!newsxfer.itd.umich.edu!  
zip.eecs.umich.edu!yeshua.marcam.com!news.kei.com!eff!wariat.org!malgudi.oar.net!  
utnetw.utoledo@ihnp4.ucsd.edu  
Subject: Ramsey 2m Amplifier Brick kit  
To: ham-homebrew@ucsd.edu

In article <Cv5E0I.6xL@fore.com>, ed@fore.com (Ed Bathgate) writes:

>

>I am thinking of getting the Ramsey 2M Brick amp kit and the matching  
>tx relay.

>

>Any experiences / opinions with this unit.

>

> 73  
>  
> Ed N3SD0  
> Ed@fore.com

Ed,

I recently built the Ramsey 2m PA-1 and relay. The amp seems to work fine. I run mine from my car (direct to battery) and use my HT to drive it. My HT puts out about 0.5 watts on low power, and this gets amplified to 10 watts at the output of the amp. The relay circuit is kind of touchy with this low of drive - they spec a low drive mod, but I didn't do it. On high power my HT puts out about 5 watts that is amplified to close to 40 watts. I don't have lab spec readings on the power out - just my cheap RS 2/440 SWR/POWER meter.

My biggest complaint - there is no provision for mounting the &\*& circuit board!! I suppose this is to allow "a wide variety of mounting options" but I see it as a pain!

Just my \$ 0.05 (that's \$ 0.02 + \$ 0.03 for taxes).

Patrick KB8PYM  
pouelle@uoft02.utoledo.edu

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Date: Fri, 2 Sep 1994 22:41:06 GMT  
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!  
cs.utexas.edu!halley!integrity!bruces@network.ucsd.edu  
Subject: Unitrode 1N5767 PIN diode + TR switch design  
To: ham-homebrew@ucsd.edu

All,

I'm planning to replace the realy on the Ramsey 2M amp (kit) with a PIN diode circuit and am looking for some info. In the ARRL Handbook, there's an HF TR switch using a Unitrode 1N5767 that's supposed to handle 100W according to the text.

1) When I try to cross the 1N5767, I get an ECG717, general purpose diode. The only PIN diodes the catalog shows are an ECG553 and 555. Does anyone know if these are acceptable replacements.

2) I plan to scale the HF design to VHF and was wondering if there are any "gotcha's (besides the standard layout considerations ,short leads, etc) when using PIN diodes in the VHF range.

Any inputs would be appreciated

```
| Bruce Sawtelle          AX.25      : W3NJ @ N5LJF.TX.USA.NA      |
| Tandem Computers, Inc. Internet : bruces @ mpd.tandem.com    |
| 14231 Tandem Blvd.      USENET     : halley!bruces          |
| Austin, Tx 78728        TCP/IP     : 44.76.1.42 (w3nj.ampr.org) |
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| Bruce Sawtelle          AX.25      : W3NJ @ N5LJF.TX.USA.NA      |
| Tandem Computers, Inc. Internet : bruces @ mpd.tandem.com    |
| 14231 Tandem Blvd.      USENET     : halley!bruces          |
| Austin, Tx 78728        TCP/IP     : 44.76.1.42 (w3nj.ampr.org) |
```

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Date: Fri, 2 Sep 1994 22:44:45 GMT  
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!  
cs.utexas.edu!halley!integrity!bruces@network.ucsd.edu  
Subject: Unitrode 1N5767 PIN diode + TR switch design  
To: ham-homebrew@ucsd.edu

All,

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```
| Bruce Sawtelle          AX.25      : W3NJ @ N5LJF.TX.USA.NA      |
| Tandem Computers, Inc. Internet : bruces @ mpd.tandem.com    |
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```

```
--
| Bruce Sawtelle          AX.25      : W3NJ @ N5LJF.TX.USA.NA      |
| Tandem Computers, Inc. Internet : bruces @ mpd.tandem.com    |
| 14231 Tandem Blvd.      USENET     : halley!bruces          |
| Austin, Tx 78728        TCP/IP     : 44.76.1.42 (w3nj.ampr.org) |
```



Date: 2 Sep 1994 16:52:23 GMT

From: ihnp4.ucsd.edu!dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!  
spool.mu.edu!sdd.hp.com!col.hp.com!fc.hp.com!wells@network.ucsd.edu

To: ham-homebrew@ucsd.edu

References <33vtan\$b0v@eccdb1.pms.ford.com>,

<1994Aug30.221728.22347@vfl.paramax.com>, <nukeCvEz9o.8Gn@netcom.com>

Subject : Re: ad-Hoc transmitters (was: Re: regenerative sets and selectivity)

Bill Newcomb (nuke@netcom.com) wrote:

: I found out last weekend that the mysterious audio noise marker  
: generator that I had been hearing on 2 m was actually my CD-boom box!  
: Every 90 kHz a nice bit of noise. Anyone know what it might be?  
: servo-positioner for the laser diode, maybe?

: Bill "TVI, nuthin!"

Most likely it is a bit of the clock that is used for the serial input  
D/A converter. The base frequency is 44.1 (I think) so that would a 2x  
oversample clock of 88.2 kHz. Most likely a bit of coperclad carefully  
placed around the D/A converter area would fix it up fine.... No guarantees  
by the way ;-)

John WA0LHB in the Fort

-----  
Date: Fri, 2 Sep 1994 20:53:11 +0000

From: ihnp4.ucsd.edu!newshub.nosc.mil!crash!news.sprintlink.net!demon!  
arkas.demon.co.uk!Michael@network.ucsd.edu

To: ham-homebrew@ucsd.edu

References <btobackCuyHH5.Hw4@netcom.com>, <CvBDI2.Lp2@ncifcrf.gov>,  
<34075f\$6sl@canopus.cc.umanitoba.ca>.c

Reply-To : Michael@arkas.demon.co.uk

Subject : Re: Portable EME Station -- Questions

In article <34075f\$6sl@canopus.cc.umanitoba.ca>

rflukes@silver.cs.umanitoba.ca "Richard F. Lukes" writes:

[snip]

> I would also like to know what frequency is the best choice for EME.  
> Aside from the obvious practicality of generating big power (1KW)  
> at frequencies about 432MHz, there must be some other factors  
> such as reflectivity of signals from the moon, and absorption of  
> signals by the atmosphere.  
>

> What about 900, 1296, and 2304MHz? What are some of the advantages  
> of these over say 2m? Obviously, a high gain antenna is much smaller.

Absorption tends to become more noticeable up around 4 GHz and above.

The surface alignment requirements of parabolic antennas become more critical as the frequency increases, i.e. wavelength decreases, and hence one has to pay more attention to correctly shaping the parabolic surface.

On a slightly different note ...

I'm still kicking myself that I never had the opportunity to attempt moonbounce at 12 GHz. I had available (for a while) a 14 metre diameter Cassegrain-fed parabolic dish - gain = 64 dBi, G/T = 38 dB/K - and two 7 metre diameter Cassegrains which weren't carrying traffic. The problem was that I could only muster 50 W at 12 GHz. Now, if I'd had a 14 GHz LNA at the time, I could've put 2 kW up (or 4 kW if I phased the amplifiers at the input). All antennas were fitted with computer controlled tracking systems so that following the moon would not have been a problem.

However, numerous discussions with my colleagues indicated that the moon may very well absorb all incident 12-14 GHz radiation. Hence, the attempt became uneconomical to try ... however, it would have been interesting :) And, I was just too busy with other things ... like work!

73's

--

Mike Dower  
G0VEY  
VK2ENG

'Quoth the raven, "Never more".' ... Poe

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End of Ham-Homebrew Digest V94 #263

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